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ABSTRACT

This study is concerned with the way in which children's naturally occurring behaviors change over a period of time as they adapt to a nursery school setting. A set of seven varieties of environmental constraints and fourteen adaptations to these constraints was observed among 18 3-, 4-, and 5-year-olds in a nursery school classroom first in the fall, when the setting was newly initiated, and secondly in the spring, when the setting had been in existence for an extensive period of time. The findings showed that duration of the setting was significantly related to changes in several varieties of constraints and adaptations. The results illustrate a basic conception of ecological psychology, that the program of an environment's inputs to individuals changes if its ecological properties change--in this case, if the duration of the setting increases. ED 040 421 is an earlier version of this study. (Author)

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1

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EFFECTS OF DURATION OF A NURSERY SCHOOL SETTING ON ENVIRONMENTAL
CONSTRAINTS AND CHILDREN'S MODES OF ADAPTATION¹

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This study is concerned with the way in which children's naturally occurring behaviours change over a period of time as they adapt to a behaviour setting. The behaviour setting, a basic construct of ecological psychology, is a situation in toto which can be reliably described apart from the specific behaviours occurring within it, but which is nevertheless causally related to those behaviours. Barker (1968) refers to a number of variable properties of behaviour settings. Among those particularly relevant to this study are the temporal locus, serial occurrence, and duration of the setting. That is, behaviour settings may occur only once, on a specified day, or they may recur again and again according to some temporal schedule of days. The premise of this study is that one of the sources of behaviour variety within a setting is the setting's duration. Depending upon whether the setting is relatively new to its inhabitants or whether it has been in existence for an extensive period of time, the coercive nature of the setting over behaviour of its inhabitants will change.

One example of a behaviour setting characterized by repeated serial occurrence and long duration is the school classroom. The setting selected for study in this investigation was a nursery school classroom. The

specific behaviours of interest were a set of seven varieties of environmental constraints devised and first examined by Jackson and Wolfson (1968) and a classification of fourteen adaptations to these constraints constructed by Berk (1970). A constraint is defined as a disruption or interference in a child's natural pursuit of his desire. It is conceptualized by the present author as a special case of Schoggen's (1963) environmental force units (EFU), which are actions by the environment upon the child, directed to some specifiable end, and of which the child is aware. The EFU under consideration conflict with the child's present intentions and desires and therefore initiate subsequent attempts at dealing with these incidents of interrupted desire; therefore, using Schoggen's terminology, they are called conflict environmental force units (conflict EFU).

In the present study, the influence of duration of the nursery school setting on the frequency and variety of conflict EFU and adaptations experienced by the child is examined. Previous work directly related to this investigation has been carried out by Wolfson and Jackson (1969). They collected data about the frequency of conflict EFU among children in the spring of a nursery school year and subsequently on the same group of children who were returnees to the school the following autumn with the primary intent of determining whether children who encounter many or few of these experiences at one point in time meet a similar number of them at a later date. Their findings indicated that children who experienced a high or low number of these events had a similar relative frequency of them when observed about six months later. In addition, there were some unexpected findings of the Wolfson and Jackson research. The frequency of conflict EFU

was significantly higher in the autumn than in the spring. When individual varieties of EFU were analyzed, it appeared that those involving an interruption of desire by another child were higher in the autumn, whereas EFU involving overlook by the teacher of the child's requests and the child's inability to perform a desired task or activity were lower. Wolfson and Jackson explained these fluctuations by suggesting that they are related to the familiarity of the environment to its occupants. They speculated that when the classroom is fairly new, there are a greater number of conflicts among children centering around property rights and territoriality and when these issues become settled, interpersonal conflicts diminish in frequency.

However, it is possible that the Wolfson and Jackson study gives a biased picture of the seasonal fluctuations of conflict EFU in the nursery school because the spring observations were made prior to those in the autumn. Interpretations of seasonal differences by Wolfson and Jackson were made under the assumption that the same results would have occurred had the autumn observations actually preceded the spring. The present author corrects this difficulty by collecting data on all children in a nursery school classroom first, in the autumn, when the setting was a recently initiated one for its inhabitants, and second, at the end of the school year, in the spring, after the setting had been in existence for an extensive period of time.

In addition, the present author examines the influence of length of time children have spent in the setting on their adaptations to conflict EFU.

Prior data collected about the fourteen adaptations (Berk, 1970) show that some categories occur more often than others and that the adaptations are differentially linked with varieties of conflict EFU. One purpose of this study was to find out if the rate of occurrence of different kinds of adaptation change as children become increasingly familiar with a nursery school setting. Finally, this study replicates one aspect of the Wolfson and Jackson research by examining how consistent the frequency of EFU experienced by a child is from one occasion to another.

Method

The setting and subjects. The nursery school setting in which observations were made was one of four classrooms located in two adjacent buildings on a university campus and was part of the same school in which Wolfson and Jackson carried out their investigation. The school was in session from 9 a.m. to noon on weekday mornings. One head teacher and two assistant teachers staffed the classroom, and all but one of the eighteen three-, four-, and five-year-olds in the room were sons and daughters of professors at the university with which the school was connected. Except for two Oriental children, all of the children were Caucasian.

The classroom was furnished with standard nursery school materials. A large, spacious, oblong room was used for such activities as block play and construction, music, storytelling, and snack time. Two small rooms were adjacent to this main area. One of the small rooms was specially equipped for art activities, and the other room contained a bureau with dress-up clothing, a toy stove, and a small table where children often engaged in fantasy play. A door in the art room opened onto a balcony where

children could go out in nice weather, and behind the building was a large yard amply provided with outdoor equipment.

The daily program of the school was relatively unstructured. There were no set periods to the nursery school day when particular activities regularly took place. No direct attempt was made to teach children basic intellectual and social skills, and most of the time children engaged in free play, where their activities were self-guided and self-selected.

The classification schemes. Two classification schemes, one a categorization of conflict EFU, the second a taxonomy of modes of adaptation, were employed and are fully described with definitions and examples in a previous paper (Berk, 1970). The conflict EFU with its consequent adaptation comprised the behavioural episode. Briefly, the conflict EFU are as follows:

1. Desire vs. desire: EFU in which the child's pursuit of his desire is interfered with by another child.
2. Desire vs. teacher expectation: EFU in which the child's actions are in some manner disrupted by the teacher's wishes.
3. Desire vs. clutter crowds: EFU in which the child is jostled by his classmates or by adults without any apparent intention to disrupt his activity.
4. Desire vs. institutional restriction: EFU in which the child's activity is disrupted by the teacher because of school regulations.
5. Desire vs. inability: EFU in which the child's desire to do something is frustrated by his lack of ability.
6. Desire vs. teacher overlook: EFU in which the teacher does not respond to the child's request for help or attention.
7. Desire vs. environmental limitation: EFU in which the child expresses a desire for something that is not available.
8. Other: EFU which could not be classified into any of the above categories.

The fourteen adaptations are organized under four broad adaptation categories and are as follows:

I. Unresponsive-withdrawing

1. unresponsive: not responding overtly to a conflict EFU; continuing uninterruptedly with an activity.
2. withdrawing: retreating out of the field or relinquishing an activity, but unprecipitated by any direct admonition from another child or adult.

II. Dependent-compliant

3. whining, crying
4. complying: responding obediently to commands, prohibitions, or threats from others.
5. seeking assistance: seeking the help or protection of an adult or another child.

III. Thoughtful-persistent

6. making recompense: offering atonement or compensation to another child or adult.
7. questioning: inquiring for an explanation for the behavior of another child or adult.
8. explaining: offering a rationale for one's desire or behavior.
9. persisting: entreating, urging, or repeatedly soliciting from another child or adult, engaging in search for an object that is not there, or attempting to perform an activity beyond one's ability.

IV. Offensive-combative

10. threatening: warning, defying, or in some manner affronting another child or adult.
11. refusing: rejecting or negating the desire of another child or adult.
12. commanding: ordering, directing, or instructing another child or adult.

13. pursuing: chasing after another in retaliation or in an attempt to retrieve some object.
 14. physically attacking: deliberately pushing, running up against, or in some way attempting to assault another child or adult.
- V. Other: adaptations which could not be classified into any of the above categories.

Procedure. Data collection took place two weeks after the beginning of the school year in October and two weeks before the end of the school year in May. The October observations were used as part of the data for an earlier study, so that detailed procedures for collection of the fall data have been described previously (Berk, 1970). Briefly, the observational technique for the fall was similar to the procedure used by Wolfson and Jackson and involved watching each child in the class for two minutes during a one-hour observation period. Three observation periods took place each day, and they were continued for 7 days, until 42 total minutes of observation had accumulated for each child. Five observers participated in data collection, each making three observations per week, one early-morning, one mid-morning, and one late-morning, and each of their three observations was scheduled for a different day of the week. The observer jotted down a brief description of the episode as it happened. Immediately following the observation period, using a dictaphone he recorded a fuller description of the EFU and adaptations. These dictations were transcribed by a typist and classified into categories by two trained coders.

The spring data were collected by one observer (who was also one of the five October observers) who followed the same procedure used in the autumn, except that she observed for two observation periods per day for

11 days until a total of 42 minutes of observation for each child had been accumulated. Her observations were scheduled at all three observation period times so that they would be comparable to those which were made in the autumn.

Reliabilities. Inter-observer and inter-coder reliabilities are reported in full by Berk (1970) and are only briefly described here.² Two inter-observer reliability checks were obtained in the autumn and are based upon observations collected in four nursery schools. For both checks, each observer was twice paired with a second observer and scheduled to go into the classroom to observe with him simultaneously for one observation period. From these observations, estimates of the number of episodes overlooked by each observer were obtained by dividing the total number of episodes he and his partner saw in common by the number of episodes his partner witnessed (which included those seen in common and those seen only by the partner) and subtracting this ratio from 100. The results showed that on the average, observers overlooked from about 25 to 29 per cent of the total number of episodes which occurred during the data collection process. A subsequent examination of overlooked EFU indicated that there was no tendency for some kinds of EFU to be missed more often than others. The extent to which independently recorded descriptions of EFU and adaptations were identically coded was determined by considering only those episodes which were observed by both members of an observer pair. Inter-observer agreement figures for EFU were 96.39 per cent for the first reliability check and 95.69 per cent for the second check. For the adaptations, the agreement figures were 90.93 per cent and 76.95 per cent, respectively.

Inter-coder reliabilities were determined by having two trained coders independently code the descriptions of 51 EFU and their 53 adaptations. Percentage of agreement for the EFU was 94.10, and for the adaptations it was 88.70.

Data Analysis. The influence of duration of the setting was examined by computing frequencies and percentages of occurrence of EFU and percentages of the adaptation categories for each individual child. These within-subject frequency and percentage scores were entered as dependent variables into a four-way analysis of variance. On a particular contrast, significant findings for both frequency and percentage of EFU, rather than significance for only one of them, provide some additional confidence in the results. Since the frequency of occurrence of the adaptations was closely dependent upon the frequency of EFU, only percentage values were analyzed for the response categories.

The analysis of variance main effects were as follows: (1) time effect (autumn vs. spring); (2) sex effect (boys vs. girls); (3) age effect (young vs. old); and (4) pupil effect, which was nested within sex and age. A significant finding concerning the pupil contrast indicated much variability from pupil to pupil for a particular dependent variable. The pupil effect was estimated by averaging each student's two performances over time and subtracting this average from the average over time of his sex-age group. A test was performed to determine whether this difference was significantly different from zero. Because there was only one observation at a given time for a given pupil, the time x pupil interaction term was used as the error sum of squares in the denominator of the F-Ratios.

The age distribution was divided by splitting the boys into a young group, ranging from 35 to 43 months, and an old group, ranging from 44 to 58 months, and the girls into a young group, ranging from 35 to 47 months, and an old group, ranging from 48 to 58 months. This method resulted in some overlap in the age groupings of boys and girls, but was used so that an equal number of individuals could be allocated to each age category, thereby simplifying the analysis of variance procedures.

Correlations between fall and spring within-subject frequencies of EFU and percentages of adaptations were computed in order to examine the consistency with which a child experienced various conflict EFU and adaptations from one occasion to another.

Results

The gross frequency and percentage distributions of conflict EFU shown in Table 1 indicate that in the autumn, a total of 364 conflict EFU were observed during 756 total minutes of observation, as compared with only 249 conflict EFU in the spring. Dividing the number of EFU observed at each time by 756 reveals that on the average, in the autumn slightly more than one EFU occurred every two minutes, whereas in the spring one EFU occurred only every three minutes. The results are in agreement with previous studies (Berk, 1970; Jackson and Wolfson, 1968; Wolfson and Jackson, 1969) which show that conflict EFU are very frequent experiences in nursery school life. They also support the interpretation of Wolfson and Jackson that conflict EFU are less frequent in the spring of the year after children have had extensive experience in the nursery school setting.

Table 1 near here

Turning to an examination of particular kinds of conflict EFU, the distributions in Table 1 show that desire vs. desire, desire vs. teacher expectation, and desire vs. inability are the most frequently occurring varieties, a finding which also supports previous research. The frequency distributions indicate that the greatest fluctuations in EFU from autumn to spring involve desire vs. desire, desire vs. clutter crowds, and desire vs. inability EFU. The picture presented by the gross distributions is substantiated by the analysis of variance results shown in Table 2. Tests of significance indicate that the within-subject percentage of desire vs. desire increases ($F = 11.93$, $p < .01$) and that both frequency and percentage of desire vs. inability decrease from autumn to spring ($F = 25.43$, $p < .01$ and $F = 3.75$, $p < .10$, respectively), two findings which are in direct opposition to the Wolfson and Jackson results. The analysis of variance also shows that both the frequency and percentage of desire vs. clutter crowds ($F = 24.00$, $p < .01$ and $F = 15.50$, $p < .01$, respectively) as well as the total number of conflict EFU ($F = 17.36$, $p < .01$) decrease from autumn to spring.

 Table 2 near here

In addition, two interaction effects appeared. For boys and for older children, the percentage of desire vs. inability decreased from autumn to spring to a greater extent than it did for girls ($F = 7.20$, $p < .05$) and for younger children ($F = 7.20$, $p < .05$).

Table 3 shows the gross frequency and percentage distributions for the adaptations. For both the autumn and the spring, the most frequently occurring varieties of adaptation are those which have been found by Berk (1970) to be linked with the most frequent varieties of conflict EFU. They are unresponsiveness, which occurs often as a response to desire vs. desire, compliance, which occurs often as a response to desire vs. teacher expectation, and persistence, which occurs frequently as a response to desire vs. inability. These results reconfirm the findings of Berk (1970) and Fawl (1963) that, in everyday life, children seldom react with adaptations having strong emotional overtones (e.g., crying, physically attacking) when their goals are blocked, as would be predicted from frustration-aggression (Dollard, et al., 1939) and frustration-regression theories (Barker, et al., 1943).

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Table 3 near here

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The distributions of adaptations indicate that compliance and persistence show the greatest changes from autumn to spring, and these trends are substantiated by the analysis of variance results (see Table 2). The within-subject percentage of compliance increased ($F = 4.51$, $p < .08$) and persistence decreased ($F = 11.69$, $p < .01$) over time. When the broad adaptation categories were considered, unresponsive-withdrawing adaptations decreased from autumn to spring ($F = 6.30$, $p < .05$), but a time x sex interaction effect shows that they decreased more for younger children than for older children ($F = 6.11$, $p < .05$). Dependence-compliance increased over

time ($F = 4.73$, $p < .05$), but time $\times$ sex and time $\times$ age interaction effects show that it increased more for girls ($F = 5.60$, $p < .05$) and for younger children ($F = 5.76$, $p < .05$).

Findings for the pupil contrasts substantiate previous results (Berk, 1970; Jackson & Wolfson, 1968; Schoggen, 1963; Wolfson & Jackson, 1969) demonstrating that children vary widely in the number of EFU they encounter. Significant results were found for frequency of desire vs. desire ($F = 3.10$, $df = 14$ and 14 , $p < .05$), frequency and percentage of desire vs. inability ($F = 2.89$, $p < .05$ and $F = 2.77$, $p < .05$, with $df = 14$ and 14), total frequency of events ($F = 3.01$, $df = 14$ and 14 , $p < .01$), and persistence ($F = 3.82$, $df = 14$ and 14 , $p < .01$). These occurrences, as indicated by correlations between autumn and spring incidences of EFU and adaptations (see Table 4), also show the most stability from one time to the next. The correlation for desire vs. desire is .48 ($p < .05$), for desire vs. inability, .43 ($p < .10$), for persistence, .45 ($p < .05$), and for total frequency of EFU, .51 ($p < .05$). The latter result is in agreement with Wolfson and Jackson, who found a correlation of .40 between the frequency of conflict EFU experienced at two different times for a sample of 30 nursery school children. One additional significant correlation, for the adaptation of seeking assistance, appeared ($r = -.47$, $p < .05$).

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Table 4 near here

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Discussion

The results of this study illustrate Barker's (1968) notion that the program of an environment's inputs to individuals changes if its

ecological properties change--in this case, if the duration of the setting increases. In agreement with the Wolfson and Jackson research (1969), conflict EFU in general became less frequent experiences in the spring when children had been in the environment for an extensive period of time. This finding suggests that either children's behaviour became more mature by the end of the school year so that the setting itself relaxed its constraining inputs or that children learned to avoid some of these minor upsets and thwartings so as to create a more comfortable, conflict-free niche for themselves in their environment. The additional findings of this study on particular varieties of conflict EFU indicate that both of these factors may play a part.

In contrast to the Wolfson and Jackson results, desire vs. desire EFU increased and desire vs. inability EFU decreased in this investigation. These findings suggest that children's exploratory behaviour in a newly initiated setting centers not so much around inter-personal conflicts over territoriality and property rights as Wolfson and Jackson suggested, but rather around examination and manipulation of the material world of the nursery school. As children become more familiar with their material environment, they become more competent at dealing with it and knowledgeable, perhaps, about what they cannot do so that they no longer engage in overly difficult tasks; hence the incidence of desire vs. inability EFU decreases. The time x sex interaction effects show that inability EFU decreased more for boys as compared with girls. Boys are therefore either less persistent in returning to difficult tasks in order to master them or learn how to deal with the material world more effectively than girls.

Older children also show a greater decrease in inability EFU than younger children, presumably because their maturity gives them an added advantage in mastering their environment.

Desire vs. desire EFU are proportionately fewer at the beginning of the school year. This finding may be related to the fact that, in the fall, most of the children as yet do not know each other. At the end of the school year, when friendships have formed and children are interacting more, EFU involving interpersonal conflicts account for as much as 50 per cent of the total number of constraints occurring in the environment.

One additional finding relating to the influence of duration of the setting appeared. Desire vs. clutter crowds was significantly less frequent in the spring as compared with the autumn. As children become familiar with the location of materials in the classroom, learn how many children can play comfortably in a small enclosed space, and develop preferences for activities and areas of the classroom, accidental crowding and jostling diminish in frequency.

Insight into changes over time in adaptive strategies was acquired by distributing the adaptations by variety of conflict EFU for both the fall and the spring observations in order to find out to which EFU the changes in response pattern were most strongly connected. When this was done, it appeared that unresponsive adaptations decreased from 24.39 per cent to 15.94 per cent of the total number of adaptations to desire vs. teacher expectation, demonstrating that children were less likely at the end of the school year to ignore demands made of them by their teachers.

Compliance increased from 9.74 to 21.48 per cent of the total number of adaptations to desire vs. desire and from 54.88 to 60.88 per cent of the total number of adaptations to desire vs. teacher expectation. Children had become more co-operative and acquiescent in the face of inter-personal conflicts at the end of the school year. The increase in dependence-compliance was most marked for girls, perhaps because they were learning to respond in ways which were congruent with culturally encouraged sex roles, and for younger children, who may have been learning for the first time to engage in co-operative social relations with other individuals. Persistence decreased from autumn to spring, presumably because the EFU to which it was most strongly linked, desire vs. inability, showed such a marked decrease over time.

The significant correlations between within-subject frequencies of EFU indicate that children are prone to get themselves into some varieties of conflict EFU and that they are determined not only by setting characteristics, but also by personal characteristics of the child. The fact that desire vs. desire and desire vs. inability EFU show the greatest consistency from autumn to spring lends some support to Berk's (1970) conjecture that there may be two extreme groups of nursery school children, one which prefers to interact socially in the classroom and the other which prefers to engage in solitary activities with material objects. This speculation was originally drawn from findings which showed that low-EFU children experience a greater number of desire vs. inability EFU, and are more unresponsive-withdrawing in their adaptations, whereas high-EFU children evidence a greater number of adaptations which are offensive-combative in nature.

The low correlations between autumn and spring incidences of adaptation point to the importance of considering ecological variables in explanations of children's behaviour. The fact that all but one of the adaptations fail to show a significant positive correlation from autumn to spring, although they do show strong linkages with varieties of conflict EFU, indicates that much behaviour may be not so much influenced by personality dispositions of the child as it is by characteristics of a behaviour setting mediated through environmental inputs to its inhabitants.

Notes

¹This research was carried out at the University of Chicago under a contract with the Early Education Research Center, U. S. Office of Education. The author is indebted to Kenneth N. Berk for his assistance with the statistical analyses for this study.

²The particular inter-observer reliability figures for the spring observer are very similar to the averages reported herein and may be obtained by referring to Observer 1 in the reliability tables of the Berk (1970) article.

Table 1

Total Distributions of Conflict EFU

Conflict EFU	Autumn		Spring	
	freq.	%	freq.	%
Desire vs. Desire	137	(37.64)	125	(50.20)
Desire vs. Teacher Expectation	78	(21.43)	60	(24.10)
Desire vs. Clutter Crowds	46	(12.64)	14	(5.62)
Desire vs. Institutional Restriction	4	(1.10)	0	(0.00)
Desire vs. Inability	87	(23.90)	45	(18.07)
Desire vs. Teacher Overlook	8	(2.20)	3	(1.20)
Desire vs. Environmental Limitation	0	(0.00)	1	(0.40)
Other	<u>4</u>	<u>(1.10)</u>	<u>1</u>	<u>(0.40)</u>
TOTAL	364	(100.00)	249	(100.00)

Table 2

Mean Within-Subject Frequencies and Percentages of Conflict EFU
And Percentages of Adaptations for Significant Time Contrasts

Conflict EFU	Autumn Freq.	Spring Freq.	$\sqrt{MSE}$	F-Ratio ^a	Autumn %	Spring %	$\sqrt{MSE}$	F-Ratio
Desire vs. Desire	7.61	6.94	2.97	0.45	35.39	50.56	13.17	11.93**
Desire vs. Clutter Crowds	2.50	.78	1.05	24.00**	14.00	4.72	7.07	15.50**
Desire vs. Inability	4.89	2.50	1.42	25.43**	26.56	20.22	9.81	3.75
Total Conflict EFU	20.22	14.00	4.48	17.36**	.....	.....	.....	.....
Adaptation								
Complying	.....	.....	.....	.....	17.28	26.17	12.56	4.51
Persisting	.....	.....	.....	.....	21.50	12.83	7.61	11.69**
Broad Adaptation								
Unresponsive- Withdrawing	.....	.....	.....	.....	32.00	24.61	8.83	6.30*
Dependent- Compliant	.....	.....	.....	.....	24.94	32.44	10.35	4.73*

a. ^aDF for all tests are 1 and 14

* p <.05

** p <.01

Table 3

Total Distributions of Adaptations

	Autumn		Spring	
	Freq.	%	Freq.	%
Unresponsive	103	(26.3)	61	(21.71)
Withdrawing	23	(5.9)	8	(2.85)
Crying	1	(0.3)	3	(1.07)
Complying	64	(16.3)	72	(25.62)
Seeking Assistance	16	(4.1)	12	(4.27)
Making Recompense	1	(0.3)	2	(0.71)
Questioning	1	(0.3)	4	(1.42)
Explaining	20	(5.1)	22	(7.83)
Persisting	80	(20.4)	35	(12.46)
Threatening	2	(0.5)	6	(2.14)
Refusing	35	(8.9)	29	(10.32)
Commanding	20	(5.1)	9	(3.20)
Pursuing	8	(2.0)	5	(1.78)
Physically Attacking	9	(2.3)	13	(4.63)
Other	<u>9</u>	<u>(2.3)</u>	<u>0</u>	<u>(0.00)</u>
Total	392	(100.0)	281	(100.00)

Table 4

Correlations Between Autumn and Spring of Within-Subject Frequencies
of Conflict EFU and Percentages of Adaptations

Conflict EFU	r ^a	Adaptation	r
Desire vs. desire	.48**	Unresponsive	.005
Desire vs. teacher expectation	.12	Withdrawing	-.03
Desire vs. clutter crowds	.28	Crying	-.07
Desire vs. institutional restriction	...	Complying	-.30
Desire vs. inability	.43*	Seeking Assistance	-.47**
Desire vs. Teacher Overlook	-.33	Making Recompense	-.08
Desire vs. Environmental Limitation	...	Questioning	-.12
Total Conflict EFU	.51**	Explaining	-.13
		Persisting	.45**
		Threatening	-.18
		Refusing	.33
		Commanding	-.16
		Pursuing	-.18
		Physically Attacking	.22

a DF = 16

* $p < .10$

** $p < .05$

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